
PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Pittsburg Landing, Capt. John Rapids, Big Canyon Acclimation Facilities

BPA project number: 9801005

Contract renewal date (mm/yyyy): 1/2000 ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding

Nez Perce Tribe

Business acronym (if appropriate) NPT

Proposal contact person or principal investigator:

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NPPC Program Measure Number(s) which this project addresses

4.3A, 7.3B, 7.3B7, 7.4A.1, 7.4F, 7.5B

FWS/NMFS Biological Opinion Number(s) which this project addresses

Informal ESA Consultations, W. Stelle; 1. Operation of Pitt. Landing, 1995. 2. Construction and Installation of Pitt. Landing, 1995. 3. Operation of Capt. John Rapids, 1997. Consultation No. 649 and No. 652, Operation and Construction of Big Canyon.

Other planning document references

Wy-Kan-Ush-Mi-Wa-Kish-Wit; Clearwater Subbasin Plan.

Short description

Supplement natural production of Snake River fall chinook above Lower Granite Dam through acclimation and final rearing of Lyons Ferry yearling and subyearling at two sites on the Snake River and one site on the Clearwater River.

Target species

Snake River fall chinook salmon

Section 2. Sorting and evaluation

Subbasin

Lower Snake (Snake River between Asotin WA and Hells Canyon, lower Clearwater R.)

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
<input checked="" type="checkbox"/> Anadromous fish <input type="checkbox"/> Resident fish <input type="checkbox"/> Wildlife	<input type="checkbox"/> Multi-year (milestone-based evaluation) <input type="checkbox"/> Watershed project evaluation	<input type="checkbox"/> Watershed councils/model watersheds <input type="checkbox"/> Information dissemination <input checked="" type="checkbox"/> Operation & maintenance <input type="checkbox"/> New construction <input type="checkbox"/> Research & monitoring <input type="checkbox"/> Implementation & management <input type="checkbox"/> Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
20541	Snake River Fall Chinook Salmon Studies
9102900	Life History and Survival of Fall Chinook Salmon in the Columbia R. Basin
9302900	Survival Estimates for Passage of Juv. Salmonids Through Dams and Reservoir
9403400	Assessing Summer and Fall Chinook Restoration in the Snake River Basin
9801003	Monitor and Evaluate Spawning Distribution of Snake R. Fall Chinook Salmon
9801004	M&E of Yearling Snake R. Fall Chinook Released Upstream of L. Granite Dam
9801005	Pittsburg Ldg., Capt. John Rapids, & Big Canyon Fall Chinook Acclimation Fac

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
	Lyons Ferry Hatchery LSRCP Funded	Considered a "gene bank" for Snake River fall chinook stock; Provide yearlings and subyearlings for acclimation.
8335000	Nez Perce Tribal Hatchery	Will provide broodstock development for NPTH and will jointly contribute towards ESA

		delisting and rebuilding natural fall chinook production in the Clearwater Subbasin
9406900	A Spawning Habitat Model to Aid Recovery Plans for Snake R. Fall Chinook	Investigates interactions influencing Columbia and Snake River spawning site selection to predict spawning habitat and improved production estimates for Snake River fall chinook.
9603301	Supplement and Enhance the Two Existing Stocks of Yakima River Fall Chinook	Tests new supplementation techniques to increase natural production while maintaining genetic fitness to provide critical knowledge to resource managers throughout the Columbia River Basin.

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1996	Pittsburg Landing assembled and operated, 114K yearlings released.	Adult return data not complete until 2000.
1997	Pittsburg Landing operated, 147K yearlings acclimated and released. Big Canyon assembled and operated, 198K yearlings and 253K subyearlings acclimated and released.	Adult return data not complete until 2001.
1998	Pittsburg Landing operated, 124K yearlings acclimated and released. Big Canyon operated, 61K yearlings acclimated and released. Capt. John Rapids constructed and operated, 133K yearlings acclimated and released.	Adult return data not complete until 2002

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Coordination/Planning	a	Coordinate with WDFW to arrange for the transfer of 450,000 yearlings (150,000 to each facility). Provide

			fish rearing and release data to WDFW, USFWS and PSMFC to assist in the M&E of the program.
		b	Coordinate with USFWS to collect fish health samples and secure a fish transport permit.
		c	Coordinate with NMFS to ensure that the planned activities as presented in the Biological Assessment are adhered to and include NMFS in the review of changes to planned production that may effect listed stocks.
		d	Coordinate with LSRCP and IDFG to facilitate transport of the fish from Lyons Ferry Hatchery to the acclimation facilities.
		e	Participate in US V Oregon, PAC, in so doing, to keep them informed of activities within the facilities and any changes to planned actions.
		f	Coordinate with USFS to renew the Special Use Permit to operate the temporary acclimation facility at Pittsburg Landing.
		g	Determine the feasibility of relocating the Pittsburg Landing acclimation facility to a permanent location near Pittsburg Landing to reduce assembly costs and increase fish survival.
		h	Site investigations for permanent Pittsburg Landing facility including initial road design work, schematic facility design, cultural resource survey(s).
		i	Initiate NEPA work contingent on task "h".
		j	Coordinate with NPT M&E Projects 9801003 and 9801004 on rearing and release protocol to facilitate the fish monitoring program.
2	Operations and Maintenance	a	Solicit bids and select a contractor to install the portable tanks and associated equipment at the three acclimation sites.

		b	Work with the contractor to ensure that the tanks and associated equipment are transported and installed properly. Install water pumps at Capt. John Rapids.
		c	Test the facilities for one week prior to fish transport to identify and correct any faulty components.
		d	On or about March 1, 2000, receive 150,000 yearlings per site @ 14 fpp and rear to 10 fpp for release on or about April 15. If subyearlings are available, rear up to 300,000 per site and release on or about June 1.
		e	Collect and record all criteria relevant to fish rearing, (eg. lbs of food fed, mortality, water flow, oxygen levels, etc.) and conduct fish health checks.
		f	Following fish release, monitor the disassembly of the facilities and check that equipment is properly stored.
		g	Critique the assembly, operation, and disassembly of the facilities to improve operations and reduce costs.
		h	Repair and replace equipment as needed (e.g. paint tanks, winterize pumps and travel trailers).
3	Reports	a	Submit quarterly progress reports based upon objectives and tasks as defined within the contract SOW.
		b	Submit a final fiscal year operational report of all activities for all three projects by January 30, 2001. Include: numbers of fish released, procedures, daily rearing data, problems, fish health reports, cost summaries and copies of permits.

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	1/2000	12/2000			15.00%
2	1/2000	12/2000	Acclimation and release of 450,000 yearlings and 900,000 subyearlings.		75.00%
3	1/2000	12/2000			10.00%
				Total	100.00%

Schedule constraints

The project is dependent on the transfers of yearling and subyearling fall chinook from Lyons Ferry Hatchery. If egg collection or juvenile survival in the hatchery reduces yearlings below 900,000, one or more of the acclimation fac. may be impacted.

Completion date

Ongoing; project to continue until natural production becomes self sustaining.

Section 5. Budget

FY99 project budget (BPA obligated): \$624,000

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel		% 22	154,000
Fringe benefits		% 4	30,000
Supplies, materials, non- expendable property		% 8	53,000
Operations & maintenance	Vehicles, repair&maint., rent, utilities	% 9	61,000
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	Begin replacement of major equip. as needed; pumps, alarm system, hoses.	% 8	56,000
NEPA costs	Permanent Facility at Pittsburg Landing	% 3	20,000
Construction-related support		% 0	
PIT tags	# of tags:	% 0	
Travel	80% for field crew per diem and mileage.	% 4	27,000
Indirect costs		% 11	75,000
Subcontractor	1.Assemble Temp. Acc. sites.	% 31	210,000

	2.Prel. Design for Perm. Pitt.Ldg Fac. 3.Cultural Resource Survey.		
Other		%0	
TOTAL BPA FY2000 BUDGET REQUEST			\$686,000

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
		%0	
		%0	
		%0	
		%0	
Total project cost (including BPA portion)			\$686,000

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	\$720,000	\$790,000	\$830,000	\$890,000

Section 6. References

Watershed?	Reference
<input type="checkbox"/>	Blankenship, H. L., and G. W. Mendel. 1993. Upstream passage spawning, and stock identification of fall chinook salmon in the Snake River. Annual Report FY 92-93, December 1993
<input type="checkbox"/>	IDFG and NPT. 1990. Columbia Basin System Planning. Salmon and Steelhead Production Plan. Clearwater River Subbasin. Prepared for Northwest Power Planning Council and Columbia Basin Fish and Wildlife Authority.
<input type="checkbox"/>	Matthews, G. M., and R. S. Waples. 1991. Status review for Snake River spring and summer chinook salmon. NOAA Tech. Memo NMFS/NWC-200.
<input type="checkbox"/>	Nez Perce Tribe, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Indian Reservation, and the Confederation of Tribes and Bands of the Yakama Indian Nation. (Nez Perce Tribe et al) 1995. (con't)
<input type="checkbox"/>	Anadromous fish restoration plan: Wy-Kan-Ush-Mi-Wa-Kish-Wit: spirit of the salmon. Volumes I and II. Columbia River Inter-Tribal Fish Commission. Portland, Oregon.
<input type="checkbox"/>	NMFS, 1995, Biological Opinion for 1995 to 1998 hatchery operations in the Columbia River basin. NOAA/NMFS, April 5, 1995, 82 p. Consultation No (383).
<input type="checkbox"/>	Schmitt, R., W.Stelle, Jr., and R.P. Jones, Jr. 1995. Proposed recovery plan

	for Snake River salmon. NOAA/NMFS March 1995.
<input type="checkbox"/>	Stelle, W. 1996a. Informal Consultation letter from W. Stelle, NMFS, to W. Shake, USFWS. dated November 7, 1996, on Operation of Big Canyon fall chinook acclimation facility, Consultation Number (649).
<input type="checkbox"/>	Stelle, W. 1996b. Informal Consultation letter from W. Stelle, NMFS, to Lt. C. D.R. Curtis, COE, dated October 1, 1996, on Construction of Big Canyon fall chinook acclimation site, Consultation Number (652).
<input type="checkbox"/>	USFWS/NPT. 1996. Biological Assessment of fall chinook smolt releases. Nez Perce Tribe and U.S. Fish and Wildlife Service, July 1996.
<input type="checkbox"/>	WDFW, USFWS, and NPT. 1995. Monitoring and Evaluation of Snake River Fall Chinook Salmon Outplanted Upstream of Lower Granite Dam (FY 1996-2004). August 10, 1995, Appendix 1 in Biological Assessment, September 1995
<input type="checkbox"/>	
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PART II - NARRATIVE

Section 7. Abstract

The goal of the project is to increase the naturally spawning population of Snake River fall chinook salmon upstream of Lower Granite Dam. This is a supplementation project, in that hatchery produced fish will be released into the natural spawning habitat in an effort to return a greater number of spawners and hence increase natural production. The stock selected for release is the only Snake basin origin hatchery stock in the Pacific Northwest and the hatchery propagating the stock has been designated as a gene bank for Snake River fall chinook. This proposal represents only the O&M, or production aspect, of the program, but is part of the umbrella proposal entitled "Snake River Fall Chinook Salmon Studies". Within this umbrella are a number of monitoring and evaluation studies conducted by a host of fisheries management agencies (WDFW, USFWS and NPT). They will assess the overall success of the program in achieving its goal of enhancing natural production of Snake River fall chinook. This is a long-term project, and will ultimately work towards achieving delisting goals established by NMFS. Complete returns for all three acclimation facilities will not occur until the year 2002. Progeny (which would then be listed fish) from those returns will be returning for the next five years, to begin the delisting cycle.

Fisheries co-managers of US v Oregon, supported and directed the construction and operation of acclimation and release facilities for Snake River fall chinook from Lyons Ferry Hatchery at three sites above Lower Granite Dam. In 1996, Congress instructed the USCOE to construct, under the Lower Snake River Compensation Plan (LSRCP), final rearing and acclimation facilities for fall chinook in the Snake River basin to complement their activities and efforts in compensating for fish lost due to construction of the lower Snake River dams. The Nez Perce Tribe played a key role in securing funding and

selecting acclimation sites, then assumed responsibility for operation and maintenance of the facilities. In 1997 BPA was directed to fund O&M for the facilities. Two acclimation facilities, Capt. John Rapids and Pittsburg Landing, are located on the Snake River between Asotin, WA and Hells Canyon Dam and one facility is located on the Clearwater River at Big Canyon. The Capt. John Rapids facility is a single pond while the Pittsburg Landing and Big Canyon sites consist of portable fish rearing tanks assembled and disassembled each year. Acclimation of 450,000 smolts (150,000 each facility) begins in March and ends 6 weeks later. If available, up to 900,000 fall chinook subyearlings (300,000 each facility) may be acclimated for 6 weeks, following the smolt release.

Section 8. Project description

a. Technical and/or scientific background

This Project addresses Artificial Propagation Tasks, 4.1, 4.1.d., 4.4, 4.4.c, 4.4.d., of the Proposed Recovery Plan for Snake River Salmon, March, 1995 and is referred to in measures 4.3A, 7.3B, 7.3B7, 7.4A.1, 7.4F, and 7.5B of the NPPC F&W Program. The Snake River Fall Chinook Salmon Studies proposal is the umbrella for this project and it was submitted with the year 2000 budget proposals.

Fall chinook were once widely distributed in the Snake River from the confluence with the Columbia River upstream to Shoshone Falls, 615 miles. Construction of the Hells Canyon Complex and the Lower Snake River Dams eliminated or severely degraded 530 miles of spawning habitat. The loss of spawning and rearing areas and the degradation of migration habitat are the primary reasons that Snake River fall chinook salmon are threatened with extinction.

On April 9, 1990 the National Marine Fisheries Service (NMFS) announced that a status review of Snake River fall chinook had been initiated and that this stock has experienced such a decline in abundance that it could be found in only in a fraction of its former range. The Snake River fall chinook was listed as a threatened species on April 22, 1992.

The NMFS proposed recovery plan for Snake River Salmon recommends that Lyons Ferry Hatchery should operate as a gene bank for Snake River fall chinook and that supplementation be carefully evaluated in areas above Lower Granite Dam to determine if it can assist in recovery (task 4.1.d). The Lyons Ferry Hatchery stock was derived from native fall chinook salmon captured in the Snake River upon completion of the Hells Canyon Dam in the 1970's thus being the reason for its "gene bank" designation. Although the hatchery stock is considered part of the Snake River fall chinook salmon ESU, it is not considered listed under the ESA because of its captive rearing history at the time of listing (NMFS 1994). The proposed recovery plan also recommends that Snake River fall chinook be reintroduced into historic habitat, and that areas in the Snake River below Hells Canyon Dam and in the lower Clearwater River be considered for reintroduction (task 4.7).

During 1994, through US v Oregon, an agreement was made between the Columbia River Tribes, States and Federal agencies to replace the natural production losses from adults trapped and taken out at Lower Granite Dam with about 150,000 Lyons Ferry Hatchery yearlings to be acclimated and released upstream of the dam in 1996. Further agreements were reached to release 450,000 yearlings at additional acclimation facilities above Lower Granite Dam in future years as long as 450,000 are available for on-station releases at Lyons Ferry Hatchery. In addition the agreement states that if additional Lyons Ferry fall chinook brood production is available above the full yearling program of 900,000, then these fish shall be released off-station as subyearlings. The fall chinook acclimation project is designed to incorporate subyearling fall chinook salmon into the existing program.

The fisheries co-managers (U.S. v Oregon parties) had agreed that they should take a more active role in rebuilding the Snake River fall chinook populations within its critical habitat. Because the U.S. v Oregon parties largely control harvest and production issues, they revised the existing harvest agreements and production strategy to protect and encourage an increase in natural fish production. NMFS had determined that the Lyons Ferry Hatchery stock was the most appropriate stock to use for supplementation of the fall chinook population, yet all the fish were released at the hatchery, which is located within the Snake River reservoir complex, many miles downstream of the natural production area. The fisheries co-managers therefore decided that this stock should be released within the principal fall chinook spawning and rearing habitat to encourage an increase in natural production. The parties also agreed that an acclimated release strategy would result in a greater amount of imprinting to the release area than a direct release and thus be more effective in returning adults to the spawning area. Additionally, the parties determined that research conducted at Lyons Ferry Hatchery showed that a much higher return rate was found for fish released as yearlings (0.27%) versus subyearlings (0.04%), and thus a yearling release strategy would be most effective in returning a larger number of spawners to the release area. Since the purpose was to take an active hand in increasing natural production, a greater number of spawners would best accomplish the goals. However, the natural-origin Snake River fall chinook salmon migrated as a subyearling and therefore, a strategy was implemented to incorporate subyearlings into the existing programs as soon as feasible because of the uncertainty regarding genetics and ecological consequences of supplementing natural production with the yearling life-history variant. The yearling and subyearling groups will be differentially marked so that a direct comparison of both life-history types can be made

Funding for construction of acclimation facilities was secured during deliberations by U.S. Congress over the FY95 budget. Congress instructed the USCOE to construct, under the Lower Snake River Compensation Plan (LSRCP), final rearing and acclimation facilities for fall chinook in the Snake River basin to complement their activities and efforts in compensating for fish lost due to construction of the lower Snake River dams. The Nez Perce Tribe along with State and Federal agencies selected three acclimation sites. Two acclimation facilities are located on the Snake River, one at Capt. John Rapids and one at Pittsburg Landing. One acclimation site is located on the Clearwater River at Big Canyon. The Capt. John Rapids facility is a single pond while the Pittsburg Landing

and Big Canyon sites consist of portable fish rearing tanks assembled and disassembled each year. The sites were selected because of the proximity of spawning habitat for returning adults and because of good road access. ESA consultation by both NMFS and USFWS determined that the rearing, acclimation, and release of Lyons Ferry Hatchery fall chinook salmon at acclimation sites on the Snake and Clearwater Rivers is not likely to affect listed Snake River sockeye salmon, Snake River spring/summer chinook salmon, Snake River fall chinook salmon, or their critical habitat (Stelle 1996a, Stelle 1996b). The Nez Perce Tribe assumed responsibility for operation and maintenance of the facilities. The LSRCP was to fund the operations and maintenance of facilities constructed under the plan but in 1997 the decision was made for BPA to direct fund O&M for the facilities.

b. Rationale and significance to Regional Programs

The Proposed Recovery Plan for Snake River Salmon (Schmitten et al. 1995) specifically recommends supplementation of Lyons Ferry fall chinook salmon above Lower Granite Dam, along with careful monitoring and evaluation (task 4.1.d, page v-4-22). The Proposed Recovery Plan also recommends the experimental use of acclimation ponds and volitional release strategies to improve smolt quality (task 4.4.c, page v-4-35).

The 1995-1998 Hatchery Biological Opinion (terms and conditions 3.f) recommends the USFWS and BPA shall allow Lyons Ferry Hatchery fall chinook salmon to escape above Lower Granite Dam for natural spawning.

FWS/NMFS Biological Opinion Numbers and Informal Consultations which this project addresses:

Pittsburg Landing: 1. Informal ESA Consultation, W. Stelle, Nov. 6, 1995, Operation of Pittsburg Landing Acclimation Facility.
2. Informal ESA Consultation, W. Stelle, 1995, Construction and installation of Pittsburg Landing Temporary Acclimation site.

Capt John Rapids: 1. Informal ESA Consultation, W. Stelle, June 9, 1997, Operation of Second Acclimation Facility on the Snake River.

Big Canyon: 1. Consultation No 649, Operation of Big Canyon fall chinook acclimation facility 1997-1999.
2. Consultation No 652, Construction and installation of Big Canyon fall chinook temporary acclimation site.

The use of acclimation facilities to release fall chinook salmon above Lower Granite Dam is consistent with the management agreement drafted by federal, state and tribal salmon co-managers under the Columbia River Fish Management Plan. The Plan also addresses the release of Lyons Ferry Hatchery yearling and subyearling fall chinook salmon above Lower Granite Reservoir.

The fall chinook acclimation projects relate to the following FWP objectives and measures. First of all, measures under 7.3B all relate specifically to development and construction of portable acclimation facilities. Measure 7.4.F calls for measures to address supplementation of Snake River fall chinook, which these projects address. Measure 7.3.B.2 calls for implementing the high priority supplementation projects, and the fall chinook acclimation projects are several of the 15 high priority supplementation projects.

Section 2.1 states that, "...the Council system goal is a healthy Columbia Basin...To implement this goal, the program will deal with the Columbia Basin as a system; will protect, mitigate and enhance fish and wildlife..." Section 2.2A supports native species in native habitats. It states "The program preference is to support and rebuild native species in native habitats, where feasible. This means that remaining fish and wildlife habitat should be protected and restored to promote production of native species, especially habitat that supports weak populations of fish and wildlife."

Program measure 4.1 addresses doubling salmon and steelhead runs without loss of biological diversity. It is illustrated in this section that "Both the potential biological value of weak stocks and the requirements of the Endangered Species Act suggest that the path to doubling must begin with weak populations." In addition, it states "this weak stock priority includes populations listed under the Endangered Species Act, but is not limited to these populations."

Program measure 7.4C.1, "...recognizes that immediate actions may be required for emergency cases, such as badly damaged populations with decreasing escapements." Unprecedented efforts will be needed to prevent species extinction and preserve fish for the future. Fish and Wildlife Program measure 7.4F also states, "...as weak stocks or populations of salmon and steelhead are identified and assessed, supplementation will be one option to consider to help rebuild these stocks." Artificial propagation programs are one measure to attempt to enhance populations and increase natural production in Snake River tributaries. The NMFS draft recovery plan states that "captive broodstock and supplementation programs should be initiated and/or continued for populations identified as being at imminent risk of extinction, facing severe inbreeding depression, or facing demographic risks."

Wy Kan Ush Me Wa Kush Wit (Nez Perce Tribe et al 1995) recommends, "Implement supplementation projects that have met the screening criteria of RASP (1992) and Cuenco et al (1993)" which includes these fall chinook acclimation facilities. It also recommends, "Establish additional programs for each of the subbasin tributary systems to monitor adult escapement and resulting smolt production, and to evaluate (by measuring the number of adults returning) the ability of managers to meet goals set by the Columbia River Management Plan." Coordinating fall chinook M&E actions will do so. Production goals are also addressed in Wy Kan Ush Me Wa Kush Wit (Nez Perce Tribe et al 1995). And finally, the Clearwater River Subbasin Plan (IDFG and NPT, 1990) recommends

hatchery supplementation of fall chinook in efforts to restore natural spawning populations.

c. Relationships to other projects

The subprojects listed under the Snake River Fall Chinook Salmon Studies umbrella proposal are very complementary and cooperative, and the umbrella description presents a good review of the relationships. For more detail on individual subproject relationships please refer to the appropriate subproposal.

This project, 9801005, is responsible for operating the supplementation yearling fall chinook acclimation facilities. Acquisition of fall chinook broodstock for this program will rely on Lyons Ferry Hatchery. In addition, technology transfer and basinwide coordination of hatchery production efforts will make revisions to annual programs. Close coordination with the M&E of Yearling Snake River Fall Chinook Released Upstream of Lower Granite Dam (Project 9801004) is mandatory. Project 9801004 conducts M&E activities on the supplementation yearlings. This project will also be generating a brood source for Nez Perce Tribal Hatchery (Project 8335000) and possibly for Oregon rivers, the Grande Ronde and Imnaha, should the Northeast Oregon Master Planning process (Project 8805301) determine that supplementation is necessary.

Project 9801004 cooperates with WDFW (non-BPA project) and our project staff for PIT tagging operations of the supplementation yearling fall chinook. Health assessments are performed by USFWS (subcontract under BPA project 9102900) during PIT tagging. The project, Assessing Summer and Fall Chinook Restoration in the Snake River Basin (Project 9403400) will also be working closely with operation of the portable acclimation facilities, and is dependent upon equipment and staffing to monitor the research fish. Research subyearling fall chinook salmon from Lyons Ferry Hatchery will be acclimated at the Big Canyon Creek Acclimation Facility on the Clearwater River during a six week period following the release of production yearling fall chinook. Importantly, this project is dependent on progress and production occurring at Lyons Ferry Fish Hatchery for both yearling and subyearling fish.

d. Project history (for ongoing projects)

This project, initiated in 1996 under the LSRCP and BPA in 1998, was the start of supplementation of the Snake River fall chinook above Lower Granite Dam. In 1996, the Pittsburg Landing Fall Chinook Acclimation Facility on the Snake River was operated by NPT and 114,000 fall chinook yearlings were acclimated and released. In 1997, both the Pittsburg Landing facility and the Big Canyon Creek Fall Chinook Acclimation Facility on the Clearwater River were operated and resulted in 147,000 yearlings and 451,000 yearlings and subyearlings released respectively. In 1998, Captain John Rapids Fall Chinook Acclimation Facility on the Snake River was operational and the three

acclimation facilities resulted in releases of 336,000 yearlings. Funding for the construction of the three acclimation facilities was secured during deliberations by U.S. Congress over the FY 95 budget, during which they instructed the U.S. Corps of Engineers to construct, under the Lower Snake River Compensation Plan, final rearing and/or acclimation facilities for fall chinook salmon in the Snake River basin above Lower Granite Dam. This was to complement their activities and efforts in compensating for fish lost due to construction of the lower Snake River dams. The LSRCP was to fund the operations and maintenance of facilities constructed under the plan. In 1997 the decision was made for BPA to direct fund O&M for the facilities in the future.

e. Proposal objectives

Objective 1 Coordination:

Coordination is a major component of the project, requiring staff time from the Fisheries Department Manager, Contract Administrator, Production Director, Production Supervisor, Fall Chinook Acclimation Project Leader and NPT Research. This project requires coordination between the Nez Perce Tribe and state, federal and county agencies. Agencies involved in coordination of this project include: USCOE Walla Walla (facility design and construction, NEPA compliance, permitting), WDFW (provides fish from Lyons Ferry Hatchery, fish transport, M&E), USFWS (fish health monitoring, M&E), NMFS (issued informal consultations for releases), LSRCP (facilities operations, fish transport), IDFG (fish transport), USFS (permit to operate Pittsburg Landing), Asotin County (permit to operate Capt. John Rapids), US v Oregon PAC (participate in planned actions), and BPA (budget process).

Begin the process of relocating the Pittsburg Landing Facility to a permanent location. Tasks include site selection, initial access road design, schematic design, cultural resource survey (s), and review of the results of these tasks by the USFS-Hells Canyon National Recreation Area Ranger, and review by members of the US v Oregon PAC committee.

Begin the NEPA process if the USFS approves the feasibility of relocating the Pittsburg Landing facility.

Objective 2 Operations and Maintenance

In November 1999, bid solicitations are prepared for the assembly and disassembly of the portable tanks and associated equipment at Pittsburg Landing and Big Canyon sites. The solicitations include installation of water pumps at the Capt. John Rapids facility. A Contractor is selected by December 31.

Assembly of the temporary acclimation facilities begin in January, 2000 and testing of the facility completed by the last week of February. The fall chinook Project Leader and his representatives monitor the project sites to ensure that the contractor adheres to the plans and specification of the contract and that all elements of construction are consistent with fish rearing, acclimation and fish release goals.

Up to 150,000 fall chinook salmon will be transferred from Lyons Ferry Hatchery on or about March 01, 2000, at a size of approximately 12 fish per pound. The fish will be reared in sixteen 20 ft. aluminum tanks located on a gravel parking area near the river at Pittsburg Landing and Big Canyon and in a 150' by 50' pond at Capt. John Rapids. River water will be pumped into the tanks and pond and discharged back into the river. The fish will be reared and acclimated in the temporary facilities for six weeks before release into the Snake and Clearwater Rivers in April, 2000, at a size of approximately 10 fpp, or 160-170 mm fork length. If subyearlings are available, up to 300,000 will be transferred to each facility at 90 fpp for rearing and acclimation for six weeks before release into the river in June, 2000, at 60 fpp. Priority release sites for subyearlings are: 1. Big Canyon, 2. Capt. John Rapids and 3. Pittsburg Landing.

Release will occur during rising water conditions, at the same time or slightly preceding fall chinook salmon releases at Lyons Ferry Hatchery, and at night to minimize predation by birds or other fish.

The yearling to adult return rate is expected to be equal to the Lyons Ferry Hatchery survival rate of 0.269%. A total of 1345 adults (or more) may return above Lower Granite Dam as a result of these annual releases. Subyearling releases at Lyons Ferry Hatchery have resulted in juvenile-to-adult survival rates of only 0.0364%. Thus, adult returns from yearling releases may be 8 times or more greater than returns for subyearlings.

The immediate goal of the project is a concerted effort to ensure that the Snake River fall chinook salmon above Lower Granite Dam do not go extinct. Long term goals of the project are:

1. Increase the natural population of Snake River fall chinook spawning above Lower Granite Dam.
2. Sustain long-term preservation and genetic integrity of this population.
3. Keep the ecological and genetic impacts of nontarget fish populations within acceptable limits.
4. Assist with the recovery of Snake River fall chinook to remove from ESA listing.
5. Provide harvest opportunities for both tribal and non-tribal anglers.

Objective 3 Reports:

An annual report will be submitted by January 31, 2001 and will include, but not be limited to:

1. Abstract
2. Introduction
3. Description of Project
4. Method and Procedures
5. Results and discussion
6. Summary and conclusions
7. Summary of budget expenditures
8. Supplementation appendices of all data collected

f. Methods

The Proposed Recovery Plan for Snake River Salmon recommends the experimental use of acclimation ponds and volitional release strategies to improve smolt quality (task 4.4.c, page v-4-35).

The success of the acclimation program depends upon three critical assumptions:

1. Three to six weeks acclimation is sufficient for fall chinook salmon yearlings and subyearlings to imprint on the release location.
2. Smolt-to-adult survival will maintain at current levels or increase during the project.
3. Sufficient broodstock will return to Lyons Ferry Hatchery to supply 450,000 yearlings.

All three facilities begin operation in March of each year. The equipment for Pittsburg Landing and Big Canyon facilities are stored near Lapwai, ID. In January and February it is transported and assembled at the two sites. Pittsburg Landing is disassembled in April and Big Canyon in June. Captain John Rapids facility is a single large pond 17 miles south of Asotin, WA, on the Snake River. The water supply is the Snake River which is pumped by two 1,000 gallon/minute submersible pumps that are floated out into the river, submerged and retrieved for storage offsite.

Fish culture methods are the same as per IHOT guidelines and consistent with WDFW fish culture techniques at Lyons Ferry Hatchery. Any changes to standard procedures is reviewed by the NPT-DFRM Production Division Director and other agencies are consulted if necessary. Environmental precautions are necessary to handle diesel and oil for the portable water pumps. Fish health protocols are as per AFS Blue Book, IHOT and Nez Perce Tribe fish health protocols.

The extended acclimation time at each site will provide natal homing of adults to the appropriate spawning habitat and diminish the likelihood that Lyons Ferry Hatchery fall chinook will stray into other Columbia Basin populations. Because the Lyons Ferry Hatchery stock and the listed natural-origin fall chinook are considered to be within the same ESU (Blankenship and Mendel 1993), there are no expected adverse effects to the listed population as a result of genetic introgression from non-native stocks (NMFS 1994).

g. Facilities and equipment

All equipment used at all three facilities was purchased by USACOE, Walla Walla under the FY95 Congressional Add-on (Senate Report, 103-672, p7). Pittsburg Landing Fall Chinook Acclimation Facility and Big Canyon Fall Chinook Acclimation Facility use identical or very similar equipment summarized as follows: 32-20ft aluminum circular tanks (transported in two sections); 4 aluminum distribution boxes; 8 river intake screens; ringlock flexible hose: 4" = 1,260 ft, 6" = 1,780 ft, 8" = 3,110 ft; camlock flexible hose:

6" = 2,080 ft; 4 - 400 gpm diesel pumps; 2 - 400 gallon diesel storage tanks; 1 - 20ft storage container; 3 - 30ft camp trailers; 2 - 1996 Chevy S-10 pickups; two alarm systems; 32 emergency oxygen systems - hoses, microdiffusers and regulators (1 per tank); two trailer mounted 4,000 watt generator light plants; one utility storage trailer; 32 camouflage nets; 4 trailer mounted hydrocyclones; miscellaneous bolts, seals, camlock fittings, etc. Pumps were not purchased for Pittsburg Landing because leasing appeared to offer the least cost over a ten year life cycle. Pumps were purchased for Big Canyon because of changes in contracting requirements at the USACOE.

Captain John Rapids facility equipment and capital construction consists of: 2 - 1000gpm submersible pumps; 2 river intake screens; anchoring system for river intakes; one large lined pond; one camp trailer; one standby electric generator; one water well (domestic water); septic system; commercial electric service; alarm system; telephone service.

h. Budget

Personnel:

The project requires Administrative Staff support, a full time Project Leader, two 6 month project foreman and 18 technicians to operate the facilities 24 hours each day for 6 to 12 weeks.

Fringe Benefits: Standard Nez Perce Tribe fringe benefits.

Supplies, materials, operations & maintenance:

Travel trailers are provided for staff members at the acclimation sites during assembly, fish acclimation and disassembly of the facilities. Support items for personnel include: portable generators, portable toilets, propane gas, potable water, telephone (satellite phone at Pittsburg Landing), transportation vehicles, rain and cold weather clothing, maintenance tools and material, cleaning supplies, etc. Fish rearing supplies and materials include fish food, tank brushes, nets, scales, oxygen meters, and bottled oxygen.

Most supplies and material are consumptive and replaced each year.

Major Equipment:

Major equipment is numerous (g. facilities and equipment) and has been manufactured for site specific application. The equipment is subject to excessive wear and damage due to the nature of yearly assembly, disassembly, transport and storage. Replacement of all components must be programmed into the budget process to assure operations are not restricted due to equipment failure.

NEPA costs:

Pittsburg Landing permanent facility review.

Subcontractor:

1. Includes cost for assembly, disassembly, transportation, and storage of fish rearing tanks and related components. Includes rental of eight 4" diesel water pumps.

Efforts are underway to test equipment modifications and alternate methods in an effort to reduce costs for this line item.

2. Engineering costs for preliminary design, road design and final design of permanent Pittsburg Landing facility.
3. Cultural Resources Survey for permanent Pittsburg Landing Facility.

Section 9. Key personnel

Grant W. Walker, Hatchery Manager (0.25 FTE)

Nez Perce Tribe Department Fisheries Resource Management

EDUCATION

Intensive Aquaculture Training, Clearwater Marine, Ltd. Isle of Mann, U.K., 1987.

B.A. in Biological Science, University of New Orleans, LA, 1981.

TECHNICAL EXPERIENCE

Nez Perce Tribal Hatchery Manager - Nez Perce Tribe Lapwai, ID. Apr 1990 - Present.

Nez Perce Tribal Hatchery, North East Oregon Hatchery, Johnson Creek

Supplementation Project, Fall Chinook Acclimation Facilities.

Hatchery Manager - Ocean Products Inc., East Machias, ME. Apr 1988 - Sept 1989.

Gardner Lake Hatchery, Atlantic salmon.

General Manager - Kentrout Ltd., Timau, Kenya, East Africa. 1982 - 1988. Hatchery management, consultant on aquaculture programs.

Buyer/Restorer/Salesman - The Mariner, Inc. New Orleans, LA. 1981 - 1982. Marine antiques, marketing and promotion.

Supervisor - X-ray and Laboratory - Medical Center of Calico Rock, AR. 1974 - 1977.

Duties: Provide direction, supervision and management for NPTH Final Design and Construction and hatchery operation. Responsible for integrating tribal production needs into the NPTH design. Project coordinator for the NATURE's Design Team. Provide tribal supervision and administration for contracts let under the NPTH program. Responsible for quarterly and annual reports for NPTH. Coordinate project development, production and ESA issues with State, Tribal and Federal agencies.

Skills: Fifteen years of experience managing fish culture, fish health, using limited resources in highly diverse geographic and cultural settings. Seven years experience working specifically on development of the Nez Perce Tribal Hatchery program. Fifteen years experience developing and overseeing contracts for various funding agencies. Fifteen years of experience supervising technical and professional fisheries staff.

Bruce M. McLeod, Project Leader, Fall Chinook Acclimation Facilities (1FTE)
Nez Perce Tribe Department Fisheries Resource Management

Education

B.S. in Biology/Geology, Wisconsin State University, 1971

Retired from U.S. Fish & Wildlife Service 10-25-97, 38 years of service

Technical Experience

Project Leader, Carson National Fish Hatchery, Carson, WA, 10/89 - 10/97

Supervisory Fishery Biologist, Kooskia National Fish Hatchery, Kooskia, ID, 10/78 - 09/89

Assistant Hatchery Manager, Kooskia National Fish Hatchery, Kooskia, ID, 06/74 - 10/78

Assistant Hatchery Manager, Garrison Dam National Fish Hatchery, Riverdale, ND, 09/73-06/74

Assistant Hatchery Manager, Fairport National Fish Hatchery, Muscatine, IO, 08/72 - 09/73

Fishery Biologist, Marion National Fish Hatchery, Marion, AL, 07/71 - 07/72

Biological Technician, Lake Mills National Fish Hatchery, Lake Mills, WI, 08/68 - 07/71

Biological Technician, Hiawatha Forest National Fish Hatchery, Racoon, MI, 10/63 - 08/68

Fish Hatcheryman, Pendills Creek National Fish Hatchery, Brimley, MI, 09/59 - 10/63

Duties

Develop contracts for the transport, assembly, disassembly, and storage of the two portable facilities; Oversee the construction of the facility at Captain John Rapid to conform to biological criteria in the conceptual design; Coordinate all aspects of fish transfers, fish health, and fish monitoring with WDFW, IDFG, USFWS, NMFS; Develop yearly activity list, budget and statement of work; Produce quarterly and annual reports; Monitor changes to operations and ensure that they fall within the scope of the environmental analysis for each facility; Coordinate with state, federal, tribal and other agencies such as WDFW, NMFS, IDFG, USACOE, USFWS, and Asotin County.

Skills

Thirty nine years experience with all aspects of intensive and extensive fish production. Worked with warmwater, coolwater and coldwater fish species. Responsible for numerous maintenance and construction projects. Supervised technical and professional fisheries staffs at many different locations; Many years experience developing budgets, production programs, training programs and facility maintenance.

Section 10. Information/technology transfer

Submit quarterly progress reports based on the objectives and tasks. Submit a final operational report of all activities for all three facilities by January 31, 2001 to include: numbers of fish released, procedures, daily observations (morts, etc), problems, operational changes, cost summaries, location of information concerning monitoring activities, copies of permits, and recommendations.

Poster presentation at Lower Snake River Compensation Plan Status Review Symposium, Boise Idaho, February, 1998.

Congratulations!